

**Work Order ID 106978****\*106978\***

Page 1

Thursday, September 12, 2013 9:00:10 AM

Item ID: D412-702-021

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 9/13/2013 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan: MFDate: 13-9-12

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

N/A

Rev N/A

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels per PPP D412-702-021 CHG003

13/9/12

DAS  
06  
9-89

110

0.00

**\*110\***

Pick Kit

Packaging

Memo

0.00

Packaging

13/9/12 (1)

DAS  
06  
9-89

120

0.00

**\*120\***

QC4- 100% Inspect kits for completeness

QC

Memo

0.00

Quality Control

13/9/12

DAS  
06  
9-89

# Work Order ID 106978

Thursday, September 12, 2013 9:00:10 AM

**\*106978\***

Page 2

Item ID: D412-702-021 Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Stop **\*NS2\***

Start Date: 9/13/2013 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 9/13/2013 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

**\*130\***

Packaging

Packaging

Packaging


Memo

Identify and pack for shipping as per PPP D412-702-021

Location: \_\_\_\_\_

0.00

0.00

① 13/9/12 

140

**\*140\***

QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

MCJ 13-09-12  
mf  
13-9-12

# Picklist Print

Thursday, September 12, 2013 9:00:05 AM

Page 1

Work Order ID: 106978

Parent Item: D412-702-021

Parent Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013

Required Date: 9/13/2013

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B Removed Manufacturing 05-11-08 JLM  
 IPP Rev:C06.04.03As per DSI9324 JLM  
 IPP rev D 06.12.14 per ecn 871 EC  
 IPP Rev:E 07-03-14 As per DSI 9351 JLM  
 IPP Rev:F 07-07-28 As per Rev E JLM Verified By:ec IPP Rev.G 11.05.31 DSI  
 9559 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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AN4-13A Bolt		Purchased	No			120	Each	1,863.0000	4	4			DAS 32 8-83
-----------------	--	-----------	----	--	--	-----	------	------------	---	---	--	--	-------------------

DAS  
06  
8-83

Location	Loc Qty	Loc Code
----------	---------	----------

FG	20	
122808	20	
Return2012	8	
122416	8	
ST511	1000	
m126193	1000	
ST513	6	
111925	2	
125388	4	
ST514	829	
122993	13	
123900	10	
m125709	806	

AN4-20A  
Bolt

Purchased

No

120

Each

554.0000

8

8

DAS  
32  
8-83

Location	Loc Qty	Loc Code
----------	---------	----------

GA	51	
116419	51	
ST516	300	
m126193	300	
ST517	203	
121060	8	
124215	195	

DAS  
06  
8-83

M125709

121060

# Picklist Print

Thursday, September 12, 2013 9:00:06 AM

Page 2

Work Order ID: 106978

Parent Item: D412-702-021

Parent Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013

Required Date: 9/13/2013

Start Qty: 1.00

Required Qty: 1.00

AN4-5A BOLT Purchased No 120 Each 276.0000

Location	Loc Qty	Loc Code
ST355	123	
120562	123	
ST514	153	
120562	153	

4 ④ 32 32

AN960JD416 Washer Purchased No 120 Each 0.0000

D3195-041 Bracket Manufactured No 120 Each 16.0000

Location	Loc Qty	Loc Code
ST246A	16	
101668	16	

20 ② 11/26 221 32 32

D3195-043 Bracket Manufactured No 120 Each 20.0000

Location	Loc Qty	Loc Code
ST246A	20	
100924	2	
102487	14	
102559	4	

2 ② 101668 32 32

D3196-1 Bar Manufactured No 120 Each 7.0000

Location	Loc Qty	Loc Code
ST259	7	
100721	3	
102560	4	

1 ① 100924 32 32

D3196-3 Bar Manufactured No 120 Each 3.0000

Location	Loc Qty	Loc Code
ST259	3	
102561	1	
88150	2	

1 ① 102560 32 32 ① 13/9/12 102561

Thursday, September 12, 2013 9:00:08 AM

Shop Packet Print

Page 2

# Picklist Print

Thursday, September 12, 2013 9:00:08 AM

Page 3

Work Order ID: 106978

Parent Item: D412-702-021

Parent Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013

Required Date: 9/13/2013

Start Qty: 1.00

Required Qty: 1.00

D3196-4 Bar Manufactured No 120 Each 2.0000

Location Loc Qty Loc Code

ST259 2  
81537 1  
88225 1

D3197-041 Bar Manufactured No 120 Each 2.0000

Location Loc Qty Loc Code

ST259 2  
102557 2

D3198-1 Fitting Manufactured No 120 Each 9.0000

Location Loc Qty Loc Code

ST246A 9  
102445 9

D3268-1 Placard Manufactured No 120 Each 16.0000

Location Loc Qty Loc Code

ST246A 16  
100801 4  
105298 12

D3546-1 Clip Manufactured No 120 Each 6.0000

Location Loc Qty Loc Code

ST246A 6  
101731 6

D3551-11 Hook And Loop Tie Manufactured No 120 Each 30.0000

Location Loc Qty Loc Code

ST246A 30  
102344 1  
105238 29

Handwritten notes and stamps on the right side of the page, including circled numbers (1, 2, 4, 2, 2, 13), codes (81537, 102557, 102445, 100801, 101731, 105238), and a date stamp 13/7/12.

Thursday, September 12, 2013 9:00:09 AM

Shop Packet Print

Page 3

# Picklist Print

Thursday, September 12, 2013 9:00:09 AM

Page 4

Work Order ID: 106978

Parent Item: D412-702-021

Parent Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013

Required Date: 9/13/2013

Start Qty: 1.00

Required Qty: 1.00

D412-702-069  
Grommet

Manufactured No 120 Each 1.0000

Location Loc Qty Loc Code

FG 1

104714 1

D4387-041  
Harness Assy

Manufactured No 120 Each 36.0000

Location Loc Qty Loc Code

ST263 36

101386 10

105286 26

D4387-043  
Harness Assembly

Manufactured No 120 Each 16.0000

Location Loc Qty Loc Code

ST265 16

105329 16

MS2104214  
Locknut

Purchased No 120 Each 4,539.0000

Location Loc Qty Loc Code

FP001 50

122452 38

8182 12

ST314 10

m125708 10

st507 33

m126073 33

ST509 3992

m126275 3992

ST510a 264

m126333 264

ST518 190

124231 190

Thursday, September 12, 2013 9:00:09 AM

Shop Packet Print

Page 4

# Picklist Print

Thursday, September 12, 2013 9:00:09 AM

Page 5

Work Order ID: 106978

Parent Item: D412-702-021

Parent Item Name: Shoulder Harness 4 Point Attachment 13 Man Configuration

Start Date: 9/13/2013

Required Date: 9/13/2013

Start Qty: 1.00

Required Qty: 1.00

MS24694-S152

Screws

Purchased No

120 Each 41.0000

8

8

DAS  
32  
88

Location

Loc Qty

Loc Code

ST304

41

m125807

41

MS24694-S154

Screw

Purchased No

120 Each 16.0000

8

8

Location

Loc Qty

Loc Code

ST304

16

m125807

16

m125807

m125807

13/3/12

DAS  
32  
88

13/12/54

QTY -021	QTY -023	QTY -025	QTY -027	QTY -029	QTY -035	Part Number	Description
X						D412-702-021	Dart 13-Man Shoulder Harness Kit, 4-point
	X					D412-702-023	Dart 5-Man Forward Facing Shoulder Harness Kit, 4-point
		X				D412-702-025	Dart 4-Man Aft Facing Shoulder Harness Kit, 4-point
			X			D412-702-027	Dart 4-Man Side Facing Shoulder Harness Kit, 4-point
				X		D412-702-029	Dart 1-Man Forward Facing Shoulder Harness Kit, 4-point
					X	D214-702-035	Dart 5-Man Aft Facing Shoulder Harness Kit, 4-point, for Bell 214B/B-1
1	1		1	1		D412-702-069	GROMMET KIT
2	2					D3195-041	BRACKET
2	2					D3195-043	BRACKET
1	1			1		D3196-1	BAR
1			1			D3196-3	BAR
1			1			D3196-4	BAR
2	2					D3197-041	BAR
4		4				D3198-1	FITTING
2	2					D3268-1	PLACARD
5			4	1		ID3446-041	HARNESS ASSEMBLY, 4 POINT
4		4				D3446-043	HARNESS ASSEMBLY, 4 POINT
					5	D3446-045	HARNESS ASSEMBLY, 4 POINT
13	5	4	4	1	5	D3551-11	HOOK AND LOOP TIE
2	2					D3546-1	CLIP
4		4				AN4-5A	BOLT
4	4					AN4-13A	BOLT
8		8				AN4-20A	BOLT
20		20				AN960JD416	WASHER (OR NAS1149D0463J)
12		12				MS21042L4	NUT (OR MS21042-4)
8	2		6	2		MS24694-S152	SCREW
8	2		6	2		MS24694-S154	SCREW

QTY -069	Part Number	Description
X	D412-702-069	GROMMET KIT
24	D3619-2	GROMMET
1	D3619-2T1	HOLE PUNCH
1	D3619-2T2	STRIKER BLOCK
1	D3619-2T3	PUNCH
1	D3619-2T4	DIE





# **DART SERVICE INSTRUCTION**

TO AMEND IIN-D412-702-1 REV. A,  
AND ICA-D412-702 REV. 4 OR EARLIER APPROVED REVISIONS  
REF. TCCA STC: SH04-7  
REF. FAA STC: SR01997NY  
REF. EASA STC: EASA.IM.R.S.00710

**REFERENCE ONLY**

## **PURPOSE**

The purpose of this DSI is to outline the replacement of existing D3446-041/-043 Shoulder Harnesses with the new and improved D4387-041/-043 Shoulder Harnesses.

## **CHANGE**

For the following Kits, the D4387-041 and D4387-043 Shoulder Harnesses respectively replace the D3446-041 and D3446-043 Shoulder Harnesses as follows:

Old Harness P/N	Used On	New Harness P/N	Effectivity
D3446-041	D412-702-021	D4387-041	CHG 003 and subsequent
	D412-702-023		CHG 002 and subsequent
	D412-702-027		
	D412-702-029		
D3446-043	D412-702-021	D4387-043	CHG 003 and subsequent
	D412-702-025		CHG 002 and subsequent






Customers who want to upgrade their shoulder harnesses may replace their existing D3446-041/-043 with D4387-041/-043 per this service instruction.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

**APPROVED**

BY:   
D. SHEPHERD (DE # 02)

DATE: 11.05.09  
CERT. NO.: SH04-7  
ISSUE NO.: 3

A	NEW ISSUE	MB	11.05.09
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9559	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		HARNESS CHANGE	NTS
DATE	11.05.09	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



**\*106978\***

Thursday, September 12, 2013 9:00:10 AM

**Item ID:** D412-702-021

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

**Item Name:** Shoulder Harness 4 Point Attachment 13 Man Configuration

**Start Date:** 9/13/2013      **Start Qty:** 1.00

**\* 1 \***

**Cust Item ID:**

**Required Date:** 9/13/2013 **Req'd Qty:** 1.00

**\* 1 \***

**Customer:**

**Reference:**

Run Start \*NR1\*

Approvals: Process Plan: mt

**Date:** 13.4.12 **Tooling:**

**Date:**

Stop \*NR2\*

**QC:**

**Date:** \_\_\_\_\_ **SPC (Y/N):** \_\_\_\_\_

**Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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<b>Draw Nbr</b>	<b>Revision Nbr</b>
N/A	Rev N/A

100		0.00
<b>*100*</b>	DOCUMENT CONTROL	
DC	<b>Memo</b>	0.00
Document Control	Photocopy bluefile and create labels per PPP D412-702-021 CHG003	

MW 1309-12

110	Pick Kit	0.00
<b>*110*</b>		
Packaging	<b>Memo</b>	0.00
Packaging		

120	QC4- 100% Inspect kits for completeness	0.00
<b>*120*</b>		
QC	<b>Memo</b>	0.00
Quality Control		